1   **INTERNET BASED COMPUTER SYSTEM COMPONENT EXCHANGE**

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3   <u>**BACKGROUND OF THE INVENTION**</u>

4   1.   <u>Field of the Invention</u>

5   The invention relates to an Internet based computer system component exchange. More

6   specifically, the invention comprises a system and method for providing an exchange server

7   complex in a network for executing buy orders for purchasing computer components.

8   2.   <u>Description of the Prior Art and Related Information</u>

9   As personal computers (PCs) have become more a part of people's everyday lives, sales

10   have increased for PCs, thus creating a major market for those who assemble and sell them. At

11   the same time, demand for computer components has increased, causing equal increases in

12   manufacturing of those computer components. Such computer components as used herein may

13   comprise both internal computer components such as processors, hard disk drives, floppy disk

14   drives, memory chips and internal modems; or external computer components or peripherals

15   such as printers, scanners and external modems. Further, due to the Internet and increased use

16   other networks, the same market changes have occurred with respect to mid-range or server

17   computers. Further, these computer components may comprise components at the computer

18   assembly level, or sub-assembly level such as computer components for computer motherboards.

19   More recently, due to historical high demand, more and more sellers of computers, and

20   manufacturers of computer components have entered the market. This has caused higher

21   supplies of both computers and computer components to enter the market. This is especially so

22   given the advent of computer component interface standards making these computer components

23   more interchangeable. In effect, computer components have become less like specialty items

24   directed toward proprietary computers, and more like interchangeable commodities. Thus, these

25   market supply pressures have caused lower profit margins for both computer sellers who

26   purchase computer components and computer component suppliers.

1   Heretofore, most business to business transactions for computer components have

2   occurred through traditional channels such as sales calls and paper intensive negotiation. Such

3   people intensive selling and buying techniques have thus become less and less practical.

4   Heretofore, there has been a need for a system to lower costs of business to business transactions

5   for the purchase of computer components.

6   On-line ordering systems have been devised in order to bring buyers and sellers together

7   in a paperless or semi-paperless system for conducting on-line sales transactions. One such

8   system for processing sales transactions is disclosed in U.S. Pat. No. 4,799,156 for an Interactive

9   Market Management System. That patent discloses a plurality of buyers and a plurality of sellers

10   which can be linked to each other by means of an interactive market management system

11   (IMMS) for interactive communications. Each of the participating entities which is a subscriber

12   to the system must always operate through the IMMS, which serves as a focal point or hub

13   through which all transactions must be funneled.

14   In U.S. Pat. No. 5,557,518, a system is described for trusted agents for open electronic

15   commerce. The system of this patent uses "money modules" to create a secure transaction

16   environment for both the buyer and the seller of electronic merchandise and services. The

17   primary objective of the patent is to provide a system which allows customers to buy electronic

18   merchandise or services on demand without enrolling in an electronic community. In the

19   described system, a customer and supplier trusted agent establish a secure session. The customer

20   trusted agent communicates with a first money-module and the supplier trusted agent

21   communicates with the second money-module. The supplier trusted agent delivers the electronic

22   merchandise. The first money module transmits electronic money to the second money module.

23   Upon successful completion of the money payment, the first money module informs the

24   customer trusted agent, and the second money module informs the supplier trusted agent. The

25   supplier then logs the sale and the customer may use the purchased electronic merchandise.

26   In U.S. Pat. No. 5,319,542, a system for ordering items using an electronic catalog is

27   disclosed. The system of this patent establishes a private catalog resident on a customer's

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1   computer system. The customer can electronically requisition a product based on the

2   information provided in the catalog and route or requisition through the appropriate approval

3   process within the enterprise. The requisitions are then processed through the customer's

4   procurement system and transmitted electronically as purchase orders to the supplier.

5   In U.S. Pat. No. 5,592,378, a computerized order entry system and method is disclosed

6   which includes a plurality of servers, data entry devices, back-end systems and data bases. The

7   computer order entry system is intended to permit placement of orders by capturing order

8   information and storing the order information through the data capture mechanism. This is

9   accomplished by a sequence of steps to search multiple search categories.

10   U.S. Patent No. 5,970,475 provides for an automated procurement system used by

11   employees within an organization to acquire goods and services that they require.

12   However, none of the systems described above are specifically tailored to enabling

13   computer component business to business exchange. Further, none of the above described

14   systems provide for financial rewards for using an on-line exchange system. Further, none of the

15   above-described systems provide for ownership of the on-line exchange system by the businesses

16   participating in the exchange, rewarding those businesses that use the exchange more often.

17   Further, none of the above described systems offer larger percentages of ownership of the on-line

18   exchange system based on successful referrals to the exchange system. Further, none of the

19   above described systems provide for payments of referral fees from value added resources based

20   on that value added resources' participation in a transaction from the exchange system.

21   **SUMMARY OF THE INVENTION**

22   A system and method for providing a computer component exchange in a network for

23   executing buy orders for purchasing computer components is disclosed. A plurality of

24   processors, also called owner-processors herein, are electrically connected to the network. At

25   least a first owner-processor is adapted to transmit electronic buy orders through the network for

26   purchasing computer components. At least a second owner-processor is adapted to receive buy

27   orders from the network.

1   The system comprises one or more servers, called a server or an exchange server complex

2   herein, that is electrically connected to the network. A plurality of investment instruments

3   comprising shares of ownership interests in the exchange server complex are stored as data

4   records in an accounting database. At least some of the owner-processors are capable of being

5   associated with at least one of the shares, thereby defining an ownership interest in the exchange

6   server complex for a proprietor of the respective owner-processor. The accounting database is

7   stored on one of the servers of the exchange server complex for storing data representing

8   allocation of profits among the owner-processors that are associated with the shares, also called

9   investment instruments herein. The profits are collected and calculated from fees charged for

10   transactions completed in the exchange server complex. The profits are represented as data

11   records in the database for tracking such earned profits.

12   The system further comprises one or more computer programs, collectively called a

13   computer program herein, for execution on one or more of the servers in the server complex, the

14   computer program having a plurality of functions or modules. Each of the modules comprises an

15   executable set of instructions for execution in the exchange server complex. One of the modules

16   comprises a means for receiving one or more buy orders for computer components from the first

17   owner-processor, the first owner-processor thereby comprising a buyer's owner-processor.

18   Another module comprises a means for matching the one or more buy orders with the second

19   owner-processor, the second owner-processor comprising a seller's owner-processor. Another

20   module comprises a means for calculating a fee for matching the buy order with the second

21   owner-processor. Another module comprises a means for charging the calculated fee to at least

22   the first or second owner-processors, or to both the first and second processors. Another module

23   comprises a means for calculating a net profit resulting from charging the calculated fee.

24   Another module comprises a means for apportioning the net profit based on the number of shares

25   associated with each owner-processor. Another module comprises a means for updating the

26   accounting database based on the apportioning of the net profit. The updating is accomplished

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1   by relating net profits with the share records through a relational means such as a relational

2   database management system (RDBMS).

3   **BRIEF DESCRIPTION OF THE DRAWINGS**

4   Fig. 1 is a block diagram illustrating a system for computer component exchange in a network

5   for executing buy orders for purchasing computer components;

6   Fig. 2 is a front view of an owner-processor executing a network or Internet browser for

7   accessing the system of Fig. 1; and

8   Figs. 3-4 show flow diagrams illustrating the steps in a method performed in the system of Fig.

9   1.

10   **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

11   With reference to Fig. 1, a block diagram illustrating a system 50 for computer

12   component exchange in a network 150 for executing buy orders 20a for purchasing computer

13   components 100 is shown. A plurality of owner-processors 10a, 10b, 10 are electrically

14   connected to the network 150. At least a first owner-processor 10a is adapted to transmit

15   electronic buy orders 20a, 20 through the network 150 for purchasing computer components 100.

16   At least a second owner-processor 10b is adapted to receive buy orders 20a, 20 from the network

17   150.

18   The system comprises an exchange server complex 51 that is electrically connected to the

19   network 150. A plurality of investment instruments 56a, 56b, 56 comprising shares of ownership

20   interests in the exchange server complex 51 are stored as data records in an accounting database

21   57. At least one of the shares 56a is associated with the first or the second owner-processor 10a,

22   10b. In Fig. 1, the first owner-processor 10a is associated with a share indicated at 56a, and the

23   second owner-processor 10b is associated with a share indicated at 56b. An accounting database

24   57 is stored on the exchange server complex for storing data representing allocation of profits 30

25   from operation of the exchange server complex 51 among the owner-processors 10a, 10b and 10

26   that are associated with the investment instruments 56a, 56b and 56. The profits 30 are

27   represented as data records in the accounting database 57 for tracking such earned profits 30.

1   The system further comprises a computer program 54 having a plurality of functions or

2   modules 59. The computer program 54 may comprise a plurality of computer programs 54 for

3   execution in a plurality of servers in the exchange server complex 51. Each of the modules 59

4   comprises an executable set of instructions for execution in the exchange server complex 51.

5   One of the modules 59 comprises a means for receiving one or more buy orders 20a for computer

6   components 100 from the first owner-processor 10a, the first owner-processor 10a thereby

7   comprising a buyer's owner-processor 10a. Another module 59 comprises a means for matching

8   the one or more buy orders with the second owner-processor 10b, the second owner-processor

9   10b comprising a seller's owner-processor 10b. Another module 59 comprises a means for

10   calculating a fee for matching the buy order 20a with the second owner-processor 10b. Another

11   module 59 comprises a means for charging the calculated fee to at least the first or second owner-

12   processors 10a or 10b, or to both the first and second processors 10a and 10b. Another module

13   59 comprises a means for calculating a net profit 30 resulting from charging the calculated fee.

14   Another module 59 comprises a means for apportioning the net profit 30 based on the number of

15   shares 56a, 56b, 56 associated with each owner-processor 10a, 10b, 10. Another module 59

16   comprises a means for updating the accounting database 57 based on the apportioning of the net

17   profit 30. The updating is accomplished by relating net profits 30 with the share records 56a,

18   56b, 56 through a relational means 56 such as a relational database management system

19   (RDBMS).

20   According to the above described system 50, the investment instruments 56a, 56b, 56

21   comprise means for providing incentive for proprietors of the owner-processors 10a, 10b, 10 to

22   place or receive buy orders 20a with the exchange server complex 51.

23   One of the modules 59 may comprise a means for associating at least one additional share

24   56 to each owner-processor 10 if the proprietor of the respective owner-processor 10 refers a

25   threshold number of other owner-processors 10 to transmit buy orders 20 to the exchange server

26   complex 51. For example, the referral may be accomplished through an automated referral from

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1   the respective owner-processor 10, wherein the exchange server complex 54 is able to detect a

2   referral source within a web page link from the referring owner-processor 10.

3   One of the modules 59 may comprise a means for withdrawing payment for the second

4   owner-processor 10b from an electronic escrow account 72a associated with the first owner-

5   processor 10a after the proprietor of the first owner-processor 10a receives the computer

6   components 100 that the buy order 20a was for. Normally, without using the escrow agent 70,

7   the components follow the path indicated at 102 and 104, wherein the components are shipped

8   from a proprietor of the second owner-processor 10b to a proprietor of the first owner-processor

9   10a. However, using the module 59 that provides escrow functionality, the computer

10   components follow the path 1indicated at 106, wherein the components are first shipped to the

11   proprietor of the escrow agent server 70, and then to the proprietor of the first owner-processor

12   10a after payment is received at the escrow agent server 70. Similarly, each of the other owner-

13   processors 10b, 10 may be associated with an escrow account 72b, 72 to provide for escrow

14   functionality.

15   A bank server 90 may be electrically connected to the network 150. Such a bank server

16   150 may comprise one that is adapted to allow for secure electronic transactions such as CHASE

17   ONLINE BANKING by the Chase Manhattan Bank of New York, New York. The module 59

18   for charging the calculated fee may comprise a means for electronically debiting a first bank

19   account 92a associated with the first owner-processor 10a, a second bank account 92b associated

20   with the second owner-processor 10b, or both the first bank account 92a and the second bank

21   account 92b. Other owner-processors 10 may have bank accounts 10 associated with them that

22   can be electronically debited.

23   Similar to debit operation performed by the module 59 for charging, for module 59 for

24   apportioning may electronically credit a bank account 92 associated with each of the plurality of

25   owner-processors 10 that are associated with shares 30 based on the number of shares 30

26   associated with each respective owner-processor 10.

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1   The module 59 for matching may match a set of requirements in the buy order 20a with

2   the second owner-processor 10b if the second owner-processor indicates that a proprietor of the

3   second owner-processor 10b is able to supply computer components 100 that meet the set of

4   requirements. The second processor 10b may indicate so with a set of specifications 20b

5   transmitted to the exchange server complex 51 as a data stream or set of packets. The buy order

6   20a and specifications 20b may be formatted into an electronic commerce standard format. The

7   electronic commerce standard format comprises a bill of materials format as described by a

8   ROSETTANET industry standard which may be found at www.rosettanet.org.

9   One of the modules 59 may comprise a means for referring the first and second owner-

10   processors 10a-10b to a value added service 80. The referring module 59 may charge a referral

11   fee to the value added service 80 when the first and second owner-processors 10a-10b are

12   referred to the value added service 80. The module 59 for apportioning is further for

13   apportioning the fee received from the value added service 80 as part of the net profits 30 among

14   the owner-processors 10a, 10b 10 based on the number of shares 56a, 56b, 56 associated with

15   each owner-processor 10a, 10b, 10. The value added service 80 may comprise, for example, a

16   scheduling server for a computer component shipping agent for providing transportation of the

17   computer components 100 that are for the buy order 20a from a proprietor of the second owner-

18   processor 10b to the proprietor of the first owner-processor 10a.

19   One of the modules 59 may comprise a means for publishing statistics based on a

20   plurality of buy orders 20 received from a plurality of owner-processors 10 that are each matched

21   with at least one other owner-processor 10. The module for publishing may produce an

22   electronic ticker tape for display on an attached monitor of one or more of the owner-processors

23   10 for informing the proprietor of each respective owner-processor 10 of closing prices per unit

24   by type of computer component in the latest buy order 20 in time that was matched with an

25   owner-processor 10 for each type of computer component.

26   With reference to Fig. 2, a front diagrammatic view of an owner-processor 10 executing a

27   network, or Internet, browser 202 is shown. The owner-processor 10 may comprise a CISC

1   based system such as a personal computer (PC) executing the NETSCAPE browser by Netscape,

2   Inc. of Mountain View, California, or RISC based system such as a SUN workstation by Sun

3   Microsystems, Inc. of San Jose, California executing the INTERNET EXPLORER browser by

4   the Microsoft Corporation of Bellevue, Washington, or other HTML, XML, or Java compliant

5   combination of hardware and software. The owner-processor 10 includes a monitor 200 for

6   presenting the browser 202 and a client module (one of 59 in Fig. 1) of computer program 54

7   executing in the browser 202. The client module 59 may include one or more applets written in

8   JAVA, ACTIVE X or other browser compliant languages for controlling client functions.

9   In Fig. 2, a main menu 210 of the system is presented to allow the proprietor of the

10 owner-processor 10 to execute a variety of modules 59, for example, a module 59 for placing a

11 buy order 20, submitting computer component specifications 20b that the owner-processor 10 is

12 making available for sale, browsing buy orders 20 submitted by other owner-processors 10, or

13 negotiating a buy or sell deal with another owner-processor 10. The module 59 for publishing is

14 presenting a continuously updating ticker tape in the browser 202. The ticker tape 220 displays

15 the current market prices for computer components based on the latest matches or sales executed

16 on the exchange server complex 51. The ticker tape 220 may be self-updating by using means

17 such as a JAVA applet or other browser executable software such as ACTIVE X.

18   With reference to Figs. 3-4, a flow diagram illustrating the steps in a method performed

19 in the system of Fig. 1 for receiving and matching a buy order 20 is shown. The proprietor of the

20 first owner-processor 10a produces a buy order 20a, step 300. The buy order 20a is transmitted

21 over the network 150 to the exchange server complex 51, step 302. The exchange server

22 complex 51 receives the buy order 20, step 304. The exchange server complex posts the buy

23 order 20 in an on-line public buy order list, step 306. The buy order list may comprise a table in

24 the accounting database 57, or a RDBMS separate from the accounting database 57. The

25 proprietor of the second owner-processor 20b may produce one or more specifications 20b of

26 computer components 100 that it offers, step 308. Similar to the buy orders 20a, the

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1   specifications are posted and stored in a specifications lists that may comprise a table in the

2   accounting database 57, or a RDBMS separate from the accounting database 57, step 310.

3   The computer program 54 attempts to match the buy order 20a with the specifications

4   20b posted. The computer program 54 compares such requirements of the buy order such as type

5   of computer component, price, warranty and other requirements with a posted specifications

6   entry 20b defining the same, including an offering price, step 312. If an exact match is not

7   found, step 314, for example, if the price offered in the specifications entry 20b is higher than the

8   requirements price in the buy order 20a, 314, the closest or best match is located for the buy

9   order 20a, step 316. If a best match is found in step 316, then the system sets up negotiations

10   between the first and second owner-processors, 10a and 10b, step 318, assuming that the second

11   owner-processor 10b presents the best match for the buy order 20a. Negotiations may be

12   facilitated using electronic mail through the exchange server complex 51, a real-time message

13   program such as INSTANT MESSAGENGER by America On Line, Inc. of Dulles, Virginia, or

14   by providing contact information to both owner-processors 20a and 20b.

15   If a deal is closed between the first and second owner-processors 10a and 10b or the

16   match was initially successful in step 314, the processing moves to Fig. 4, where a fee, or finders

17   fee, is calculated for matching the buy order 20a to the second owner-processor 20b or

18   specifications 20b, step 322. The fee may be calculated according to the size of the buy order 20

19   in units of computer components 100, the total price of the buy order 20 or on a flat fee basis.

20   The calculated fee is charged to either or both owner-processors, step 324. Charging of the fee

21   may be accomplished by a simple paper billing procedure, or through an electronic debit from

22   the owner-processors' 20a, 20b bank accounts 92a and 92b in Fig. 1.

23   The net profit from the transaction just described is calculated by the computer program,

24   step 326. The net profit 30 from the transaction may be calculated as:

25        $np = fee - ct$

26   where np is the net profit 30 from the transaction, the fee is the fee calculated in step 322, and ct

27   is the cost of the transaction. The cost of the transaction may be the estimated or calculated cost

1   of operating the exchange server complex 51 for a fixed period divided by the average number of

2   transactions in that period, or:

3   ct = co/trn

4   wherein co is the cost of operating the exchange server complex 51 for the fixed period of time,

5   and trn is the number of transactions for that period. Once the net profit 30 is calculated, the

6   computer program 54 apportions the net profit 30 based on the number of shares associated with

7   each owner-processor 10a, 10b, 10. Apportionment is represented by updating the profit

8   database records (indicated by 30 in Fig. 1) in the accounting database 57, step 330.

9   Alternatively, net profits may be directly distributed to the bank accounts 92a, 92b, 92 of owner-

10   processor 10a, 10b, 10 that are associated with the investment instruments or shares 56a, 56b, 56

11   indicating ownership in the exchange server complex 51.

12   In an alternative embodiment, the module 59 for matching buy orders 20a and sell orders

13   20b may comprise a module 59 for matching bids 20a and offers 20b for an on-line auction

14   conducted in the exchange server complex 51. Such an auction may alternatively comprise a

15   reverse auction in which the buyer's owner-processor 10a submits a price as part of the bid 20a

16   that the proprietor of the owner-processor 10a is willing to pay. In this embodiment, the

17   exchange server complex 51 receives a bid 20a comprising a price that the proprietor of the

18   owner-processor 10a is willing to pay, among other computer component specifications. The

19   module 59 for matching buy orders 20a allows proprietors of the seller's owner-processor 10b

20   view the bid 20a, among other bids 20 received from other owner-processors 10, to accept the

21   highest price for selling the components 100. Alternatively, the seller's owner-processor 10b

22   may submit a lowest offer price 20b that the proprietor of the seller's owner-processor 10b would

23   be willing to accept for the computer components 100, the module 59 for matching only

24   accepting bids 20a, 20 that meet or exceed that lowest offer price 20b.

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